

CLAIMS

What is claimed is:

1. A manufacturing operation comprising:

a production area;

a delivery area;

a plurality of platforms each having an independently controllable and steerable drive assembly and wherein adjacent platforms are spaced from one another a first distance in said delivery area and a second distance in said production area, said first distance being greater than said second distance.
2. The manufacturing operation of claim 1 further including a controller communicating with the drive assemblies to communicate a current command to each of the drive assemblies thereby controlling the velocity of each platform to maintain a zero gap between adjacent platforms in the production area.
3. The manufacturing operation of claim 2 wherein the plurality of platforms include a first platform and a second platform, said second platform following said first platform in the production area.
4. The manufacturing operation of claim 2 further including a bridge mechanism spanning the zero gap between the first and second platforms in the production area.

5. The manufacturing operation of claim 4 wherein said bridge mechanism includes a bridge plate movably coupled to one of the first and second platforms.

6. The manufacturing operation of claim 5 wherein said bridge plate is pivotably coupled to said one of the first and second platforms and wherein the other of the first and second platforms includes a cam engageable with the pivoting plate.

7. The manufacturing operation of claim 6 wherein said bridge plate is pivotable about an axis substantially perpendicular to a direction of travel of said one of the first and second platforms.

8. The manufacturing operation of claim 4 wherein said bridging mechanism includes a resilient bumper fixed to one of the first and second platforms.

9. The manufacturing operation of claim 1 wherein each of said plurality of platforms further includes a link coupler maintaining a zero gap between adjacent platforms.

10. The manufacturing operation of claim 9 wherein said link coupler includes a proximity sensor mounted to each of the platforms and communicating with the controller, said controller controlling the speed of the platform drive assembly in response to signals from the proximity sensor to maintain zero gaps.

11. The manufacturing operation of claim 9 wherein said link coupler includes a latch mechanically coupling adjacent platforms in said production area.

12. A platform for transporting workpieces through a manufacturing operation having a production area and a delivery area, said platform comprising:

a deck;

a drive assembly having a steerable drive wheel fixed to move with the deck and a controller communicating with the drive wheel to control the velocity of the platform;

a bridge mechanism coupled to the deck; and

a link coupler coupled to the deck.

13. The platform of claim 12 wherein said bridge mechanism includes a bridge plate movably coupled to said deck.

14. The platform of claim 13 wherein said bridge plate is pivotably coupled to the deck.

15. The platform of claim 12 wherein said bridge mechanism includes a resilient bumper fixed to said deck.

16. The platform of claim 12 wherein said link coupler includes a proximity sensor fixed to the deck and communicating with the controller.

17. The platform of claim 12 wherein said link coupler includes a latch movably coupled to said deck.

18. A method of moving a plurality of independently driven platforms through a manufacturing operation having a production area and a delivery area, the plurality of platforms including first and second steerable platforms, said second platform trailing the first platform in the production area, each of the first and second platforms including a drive assembly having a drive wheel, said method comprising:

controlling the first and second drive wheels to maintain a zero gap between the first and second platforms in the production area.

19. The method of claim 18 wherein the step of controlling the drive velocity includes communicating a current command of variable magnitude to the drive assembly.

20. The method of claim 18 further including monitoring the relative positions of the first and second platforms in the production areas and adjusting the drive velocity to maintain the zero gap.

21. The method of claim 18 further including progressively slowing the drive velocity of the first drive wheel as the first platform moves through the production area.